

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 04 November 1998 (04.11.98)	
International application No. PCT/SE98/00500	Applicant's or agent's file reference ROS 002 PCT
International filing date (day/month/year) 20 March 1998 (20.03.98)	Priority date (day/month/year) 24 March 1997 (24.03.97)
Applicant SKÖLD, Rolf	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

14 October 1998 (14.10.98)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Marianna Roux Telephone No.: (41-22) 338.83.38
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## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ROS 002 PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/SE98/00500	International filing date (day/month/year) 20.03.1998	Priority date (day/month/year) 24.03.1997
International Patent Classification (IPC) or national classification and IPC <sub>6</sub> G01D 7/10, G01D 21/02, G01N 25/00		
Applicant Sköld, Rolf		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  14.10.1998	Date of completion of this report  05.05.1999
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  Lars Jakobsson / itw Telephone No. 08-782 25 00

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/00500

## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

- ☒ the international application as originally filed.
- ☐ the description, pages \_\_\_\_\_, as originally filed,  
 pages \_\_\_\_\_, filed with the demand,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the claims, Nos. \_\_\_\_\_, as originally filed,  
 Nos. \_\_\_\_\_, as amended under Article 19,  
 Nos. \_\_\_\_\_, filed with the demand,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.
- ☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
 sheets/fig \_\_\_\_\_, filed with the demand  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
 sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE98/00500

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	<u>1-10</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-10</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims		NO

**2. Citations and explanations**

The claimed invention relates to a method and a device for characterisation of physical and/or chemical properties of a liquid. According to the invention one dependent physical and/or chemical property of a liquid is measured as a function of temperature and a component concentration as independent variable. The component concentration and temperature are determined. The value of the component concentration is changed and a representative number of measurements of the dependent physical or chemical property are performed within a selected temperature range within the predetermined change of the component concentration. The procedure is repeated at desired component concentrations and temperatures in order to obtain a wanted number of values. Obtained values are visualised in a three-dimensional diagram.

Documents cited in the International Search Report:

WO 9202824  
US 4810286  
US 4122343  
GB 2300272  
GB 2268276

WO 92/02824, US 4122343, and US 4810286, closest to the invention, describes processes where parameters are measured and plotted on a diagram. The diagram is indicative for the processed product.

GB 2300272 and GB 2268276 describes methods and apparatus for determining a property by measuring and plotting density resp change in volume as a function of temperature in a graph. The property is determined by observing an inflexion in the established graph.

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: V

None of the documents describes a method and a device for characterisation of physical and/or chemical properties of a liquid where one dependent physical and/or chemical property of a liquid is measured as a function of both temperature and component concentration where the temperature and component concentration are controlled within selected ranges in order to obtain a wanted number of values.

According to the method and the device several dependent physical and/or chemical properties can be measured simultaneously in the cell at the same temperature and component concentration. The temperature and component concentration are varied in a predetermined fashion and at all desired measuring points so that one or several properties can be measured.

Accordingly, the claimed invention fulfil the requirements of novelty (N), inventive step (IS) and industrial applicability (IA).

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/00500

## A. CLASSIFICATION OF SUBJECT MATTER

IPC6: G01D 7/10, G01D 21/02, G01N 25/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: G01D, G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 9202824 A1 (IRON CARBIDE HOLDINGS, LIMITED), 20 February 1992 (20.02.92), page 25, line 14 - page 28, line 7, figure 1, abstract  --	1-10
X	US 4810286 A (MARK R. SCHLICHTING ET AL), 7 March 1989 (07.03.89), column 4, line 30 - column 5, line 18, figure 4, abstract  --	1-10
A	US 4122343 A (TERENCE H. RISBY ET AL), 24 October 1978 (24.10.78), abstract  --	1-10

☒ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

31 August 1998

Date of mailing of the international search report

01-09-1998

Name and mailing address of the ISA:

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 98/00500

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2300272 A (PETRÓLEO BRASILEIRO S A - PETROBRAS), 30 October 1996 (30.10.96), abstract  --	1-10
A	GB 2268276 A (NORSK HYDRO AS), 5 January 1994 (05.01.94), abstract  -- -----	1-10

# INTERNATIONAL SEARCH REPORT

Information on patent family members

27/07/98

International application No.

PCT/SE 98/00500

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9202824 A1	20/02/92	AU 657697 B AU 8402991 A CA 2087602 A EP 0541711 A SG 46675 A US 5366897 A	23/03/95 02/03/92 02/02/92 19/05/93 20/02/98 22/11/94
US 4810286 A	07/03/89	CA 1305863 A	04/08/92
US 4122343 A	24/10/78	CA 1074869 A CA 1082311 A DE 2718880 A GB 1582303 A JP 52138992 A JP 53001081 A JP 61001708 B US 4075475 A	01/04/80 22/07/80 24/11/77 07/01/81 19/11/77 07/01/78 20/01/86 21/02/78
GB 2300272 A	30/10/96	BR 9501855 A CA 2172689 A GB 9601576 D	26/08/97 29/10/96 00/00/00
GB 2268276 A	05/01/94	CA 2097880 A FR 2692676 A,B NO 176156 B,C NO 922469 A US 5454257 A	23/12/93 24/12/93 31/10/94 23/12/93 03/10/95